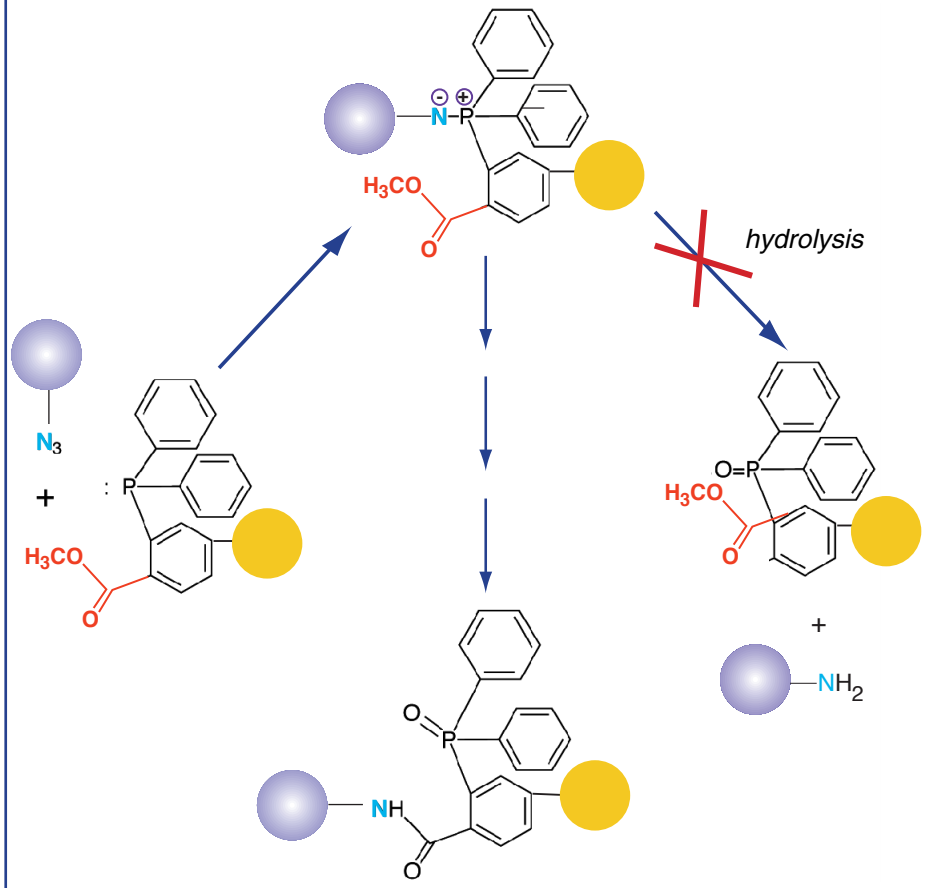
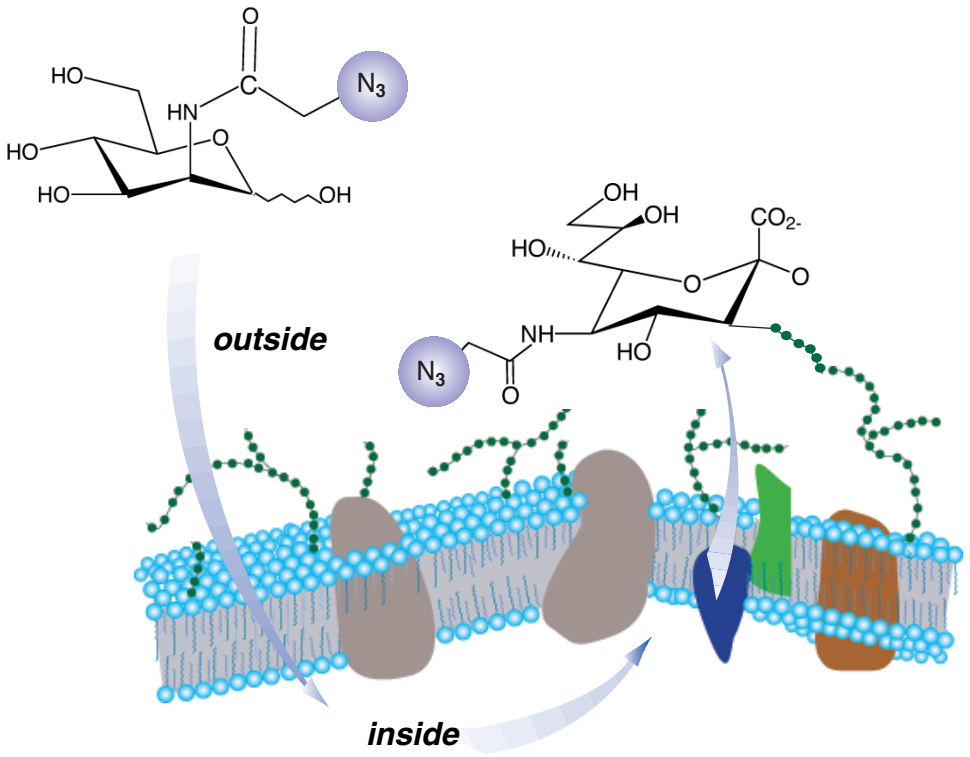
Cell Surface Engineered for the Biology/Materials Interface

Second, Independent, Specific Linkage Developed



Classical Staudinger reaction between an azide (-N_3) and a phosphine (:P-) (left) leads to product (top) that falls apart (right). Modification of the phosphine with "acetyl group" (red) allows stable link between azide labeled cell (blue circle) and phosphine labeled material surface (gold circle).



Azide labeled sugar (top left) is fed to cells which process it for placement on carbohydrates (green dots) extending outward from their outer membranes. It can then react with and bind modified phosphines on materials surfaces.

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